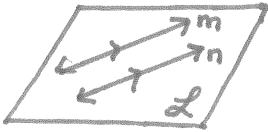
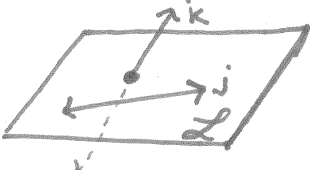
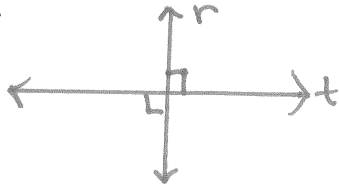





# H.Geometry - Chapter 1 – Definition Sheet

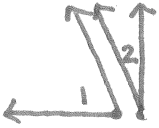
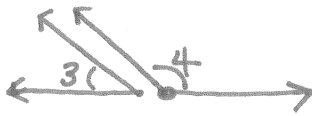
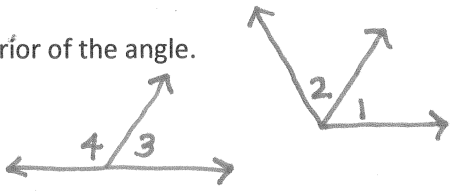
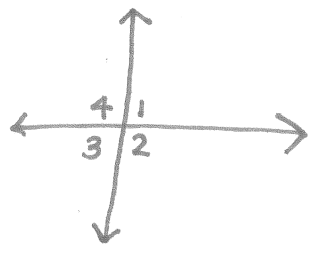
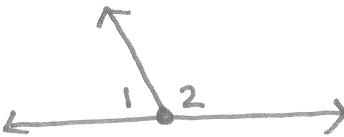
## Section 1.3

<p><b>Conditional Statement</b></p>	<p>A statement that is written in <u>if-then</u> form.</p> <p>Ex: <u>If</u> a polygon is a hexagon, <u>then</u> it has exactly 6 sides.</p>
<p>Part of a conditional: <b>Antecedent and Consequent</b></p>	<p>Antecedent: the "if" part (not including if)</p> <p>Consequent: the "then" part (not including then)</p>
<p>Part of a conditional: <b>Converse Statement</b></p>	<p>The <u>reverse</u> of a conditional (switch the <u>antecedent</u> and <u>consequent</u>)</p> <p>***True conditional doesn't always have a true converse</p> <p>Example: <u>If</u> a polygon has exactly 6 sides, <u>then</u> it is a hexagon.</p> <p>*If <math>x=3</math>, then <math>x^2=9</math> / If <math>x^2=9</math>, then <math>x=3</math> (not true)</p>
<p><b>Biconditional Statement</b></p>	<p>A single statement formed from a true conditional and true converse.</p> <p>IFF: <u>If and only if</u> <sup>order:</sup> (antecedent IFF consequent)</p> <p>Example: A polygon is a hexagon IFF it has exactly 6 sides.</p>
<p><b>Counterexample</b></p>	<p>An example of an object that meets the criteria specified but isn't what you are trying to define.</p> <ul style="list-style-type: none"> <li>- Proves the conditional/bi-conditional false.</li> </ul> <p>An animal is a dog IFF it is a basset hound. A quadrilateral is a square IFF it has 4 90° angles</p>

# H. Geometry - Chapter I - Definition Sheet

<p>Steps to creating good definitions.</p>	<p>(1) classify your term - characteristics          (2) differentiate your term - different characteristics          (3) Test by looking for counterexamples          - write as biconditional</p>
<p>Parallel Lines</p>	<p>Two lines are parallel IFF they are <u>coplanar</u> and do not <u>intersect</u>.          Labeled with <u>arrow heads</u>.</p> 
<p>Skew Lines</p>	<p>Two lines are skew IFF they are <u>not coplanar</u> and do not <u>intersect</u>.</p> 
<p>Perpendicular Lines</p>	<p>Two lines are perpendicular IFF they <u>intersect</u> at a <u>right angle</u>.</p> 
<p>Right Angle</p>	<p>An angle is a right angle iff its measure is exactly <math>90^\circ</math>.</p> 
<p>Acute Angle</p>	<p>An angle is an acute angle iff its measure is less than <math>90^\circ</math> and greater than <math>0^\circ</math>.</p> 
<p>Obtuse Angle</p>	<p>An angle is an obtuse angle iff its measure is greater than <math>90^\circ</math> and less than <math>180^\circ</math>.</p> 

# H. Geometry - Chapter I - Definition Sheet

<p><b>Complementary Angles</b></p>	<p>Two angles are complementary IFF the sum of their measures is <u><math>90^\circ</math></u>.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p><math>m\angle 1 = 80^\circ</math> <math>m\angle 2 = 10^\circ</math></p> <p><math>m\angle 1 + m\angle 2 = 90^\circ</math></p> <p><math>\angle 1</math> is complementary to <math>\angle 2</math></p> </div> </div>
<p><b>Supplementary Angles</b></p>	<p>Two angles are supplementary IFF the sum of their measures is <u><math>180^\circ</math></u>.</p> <div style="display: flex; align-items: center;">  <div style="margin-left: 20px;"> <p><math>m\angle 3 = 45^\circ</math> <math>m\angle 4 = 135^\circ</math></p> <p><math>m\angle 3 + m\angle 4 = 180^\circ</math></p> <p><math>\angle 3</math> is supplementary to <math>\angle 4</math></p> </div> </div>
<p><b>Adjacent Angles</b> (not in book)</p>	<p>Two angles are adjacent IFF they share a common <u>vertex</u> and one common <u>side</u>.</p> <p><b>NOTE:</b> common side must be in the interior of the angle.</p> <div style="display: flex; justify-content: center; align-items: center;">  </div>
<p><b>Vertical Angles</b></p> <p>vertical <math>\angle</math>'s are <math>\cong</math></p>	<p>Two angles are vertical angles IFF they are formed by two <u>intersecting</u> lines and are not <u>adjacent</u>.</p> <p><math>\angle 1</math> and <math>\angle 3</math> are vertical angles <math>\angle 2</math> and <math>\angle 4</math> are vertical angles.</p> <div style="text-align: center;">  </div>
<p><b>Linear Pair of Angles</b></p>	<p>Two angles form a linear pair IFF they are <u>adjacent</u> and the non-shared sides form a <u>straight line</u>.</p> <p><b>NOTE:</b> A linear pair is <u>supplementary</u>.</p> <div style="text-align: center;">  </div>